IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1. (Withdrawn) A purified polypeptide selected from the group consisting of:

(a) non-human vertebrate Macrophage Derived Chemokine (MDC) polypeptides;

(b) fragments of said non-human vertebrate MDC polypeptides that retain at least one biological activity of the MDC polypeptide; and

(c) fragments of said non-human vertebrate MDC polypeptides that are capable of inhibiting at least one biological activity of the MDC polypeptide.

2. (Withdrawn) A purified polypeptide according to claim 1 that is a non-human vertebrate MDC polypeptide or fragment thereof that retains at least one biological activity of the vertebrate MDC polypeptide.

3. (Withdrawn) A purified polypeptide according to claim 1 that is a fragment of a non-human vertebrate MDC polypeptide, said fragment being capable of inhibiting at least one biological activity of the MDC polypeptide.

4. (Withdrawn) A purified polypeptide according to claim 1, selected from the group consisting of:

(a) a polypeptide comprising a sequence of amino acids identified by positions 1 to 68 of SEQ ID NO: 36;

(b) a polypeptide comprising a sequence of amino acids identified by positions 1 to 69 of SEQ ID NO: 38; and

(c) a polypeptide comprising a sequence of amino acids identified by positions 1 to 69 of SEQ ID NO: 46.

5. (Withdrawn) A pharmaceutical composition comprising a purified polypeptide according to claim 1 in a pharmaceutically acceptable carrier.

6. (Withdrawn) A purified polynucleotide comprising a nucleotide sequence that encodes a polypeptide according to claim 1.

7. (Withdrawn) A vector comprising a polynucleotide according to claim 6.

8. (Withdrawn) A host cell stably transformed or transfected with a polynucleotide according to claim 6, or with a vector comprising said polynucleotide, in a manner allowing the expression in said host cell of the polypeptide encoded by said polynucleotide.

9. (Withdrawn) A method for producing a polypeptide that is a non-human vertebrate MDC or MDC fragment or analog, said method comprising growing a host cell according to claim 8 in a nutrient medium and isolating the polypeptide from said cell or said medium.

10. (Withdrawn) An antibody that specifically binds to an MDC polypeptide, said antibody selected from the group consisting of antibody 252Y and antibody 252Z.

11. (Withdrawn) A hybridoma cell line that produces an antibody according to claim 10.

12. (Withdrawn) A kit for assaying for MDC polypeptides, said kit comprising, in association, two monoclonal antibodies that specifically bind MDC, wherein at least one of said monoclonal antibodies is a monoclonal antibody according to claim 10.

13. (Withdrawn) A method for identifying a modulator of binding between Macrophage Derived Chemokine (MDC) and an MDC receptor, comprising the steps of:

a) contacting an MDC receptor composition and a vertebrate Macrophage Derived Chemokine (MDC) polypeptide or fragment or analog thereof that binds chemokine receptor CCR4, in the presence and in the absence of a putative modulator compound, wherein said receptor composition comprises cell membranes of cells recombinantly modified to express increased amounts of the chemokine receptor CCR4;

b) detecting binding between the receptor composition and the polypeptide; and

c) identifying a putative modulator compound in view of decreased or increased binding between the receptor composition and the polypeptide in the presence of the putative modulator, as compared to binding in the absence of the putative modulator.

14. (Withdrawn) A method for identifying a modulator of binding between Macrophage Derived Chemokine (MDC) and an MDC receptor, comprising the steps of;

a) contacting an MDC receptor composition and a vertebrate Macrophage Derived Chemokine (MDC) polypeptide in the presence and in the absence of a putative modulator compound, wherein said receptor composition comprises eosinophil cell membranes;

b) detecting binding between the receptor composition and the polypeptide; and

c) identifying a putative modulator compound in view of decreased or increased binding between the receptor composition and the polypeptide in the presence of the putative modulator, as compared to binding in the absence of the putative modulator.

26. (Previously presented) A method of palliating an allergic reaction in a mammalian subject, comprising the steps of:

identifying a mammalian subject in need of treatment for an allergic reaction that is characterized by eosinophil accumulation, and

administering to said mammalian subject a composition comprising an MDC antagonist compound in an amount effective to palliate the allergic reaction.

27. (Withdrawn) A method of treating a disease state characterized by aggregation of platelets in a mammalian subject, comprising the steps of;

identifying a mammalian subject in need of treatment for said disease state, and

administering to said mammalian subject a composition comprising an MDC antagonist compound or TARC antagonist in an amount effective to prevent platelet aggregation in said mammalian subject.

28. (Withdrawn) A method of treating lupus erythematosus in a mammalian subject, comprising the steps of:

identifying a mammalian subject in need of treatment for lupus erythematosus, and

administering to said mammalian subject a composition comprising an MDC antagonist compound or TARC antagonist compound in an amount effective to treat lupus erythematosus or palliate its symptoms.

29. (Withdrawn) A method of treating a disease state characterized by activation, chemotaxis, or proliferation of cells that express the chemokine receptor CCR4 in a mammalian subject, comprising the steps of:

identifying a mammalian subject in need of treatment for said disease state, and

administering to said mammalian subject.a composition comprising an MDC antagonist compound or TARC antagonist compound in an amount effective to prevent at least one of activation, chemotaxis. and proliferation of cells that express the chemokine receptor CCR4 in said mammalian subject.

30. (Previously presented) A method according to claim 26 wherein the MDC antagonist compound is selected from the group consisting of:

(a) an antibody that specifically binds a vertebrate MDC polypeptide;

(b) a polypeptide that specifically binds a vertebrate MDC polypeptide and comprises an antigen-binding fragment of an anti-MDC antibody;

(c) a polypeptide comprising the C-C chemokine receptor 4 (CCR4) amino acid sequence set forth in SEQ ID NO: 34 or comprising a continuous fragment thereof that specifically binds MDC; and

(d) combinations of (a)-(c).

31. (Previously presented) A method according to claim 26 wherein said MDC antagonist compound comprises an antibody substance that binds MDC, said antibody substance selected from the group consisting of monoclonal antibodies, polyclonal antibodies, single cell antibodies, chimeric, antibodies, and humanized antibodies.

32. (Withdrawn) In a vaccine compound, the improvement wherein a polypeptide is included in the vaccine composition, aid polypeptide comprising a vertebrate MDC polypeptide or biologically active fragment or analog thereof.

33. (Withdrawn) A method of stimulating an immune response in a human or animal comprising the step of administering a vaccine composition according to claim 32 to a human or animal effective to stimulate an immune response in the human or animal.

34. (Withdrawn) A method of screening a patient suspected of suffering from, or undergoing treatment for, a disorder characterized by MDC-induced T_H2 cell migration or activation, comprising the steps of:

obtaining a fluid sample from a patient suspected of suffering from a disorder characterized by MDC-induced T_H2 cell migration or activation; and

determining the concentration of MDC in the fluid sample.

35. (Withdrawn) A method according the claim 34, wherein the fluid comprises serum, and wherein the MDC concentration is determined via ELISA assay.

36. (Withdrawn) A method according the claim 34, wherein the patient is suspected of suffering from the disease state, and wherein an elevated MDC concentration is considered diagnostic of the disease state.

37. (Withdrawn) A method according to claim 34, wherein the patient is undergoing treatment for the disease state, and MDC concentration in the fluid sample is used to monitor dosing or efficacy of treatment.

38. (Previously presented) The method according to claim 26 wherein the MDC antagonist compound is a monoclonal antibody selected from the group consisting of 191D, 252Y and 252Z.

39. (Previously presented) The method according to claim 26, wherein the MDC antagonist compound is a polypeptide that specifically binds a vertebrate MDC polypeptide and comprises an antigen-binding fragment of an anti-MDC antibody.

40. (Withdrawn) The method according to claim 26 wherein the MDC antagonist compound comprises a polypeptide selected from the group consisting of N-terminal deletion polypeptide mutants of amino acids 1-69 of SEQ ID NO: 2 in which 1-11 residues have been deleted, a polypeptide having the amino acid sequence of SEQ ID NO: 30 ("MDC (n+1)"), N-terminal addition polypeptide mutants of amino acids 1-69 of SEQ ID NO: 2 in which at least one amino acid residue is added, a polypeptide having the amino acid sequence of SEQ ID NO: 31 ("MDC-yl"), a polypeptide having the amino acid sequence of SEQ ID NO: 32 ("MDC-eyfy"), and MDCΔPro2 polypeptides.

41. (Withdrawn) The method according to claim 26 wherein the MDC antagonist compound comprises a polypeptide having the amino acid sequence of SEQ ID NO: 25.

42. (Withdrawn) A method of palliating an allergic reaction in a mammalian subject, comprising the steps of:

identifying a mammalian subject in need of treatment for an allergic reaction that is characterized by eosinophil accumulation, and

administering to said mammalian subject a composition comprising a TARC antagonist compound in an amount effective to palliate the allergic reaction.

43. (Withdrawn) A method according to claim 42 wherein the TARC antagonist compound is selected from the group consisting of:

(a) an antibody that specifically binds a vertebrate TARC polypeptide;

(b) a polypeptide that specifically binds a vertebrate TARC polypeptide and comprises an antigen-binding fragment of an anti-TARC antibody;

(c) a polypeptide comprising the C-C chemokine receptor 4 (CCR4) amino acid sequence set forth in SEQ ID NO: 34 or comprising a continuous fragment thereof that specifically binds TARC; and

(d) combinations of (a)-(c).